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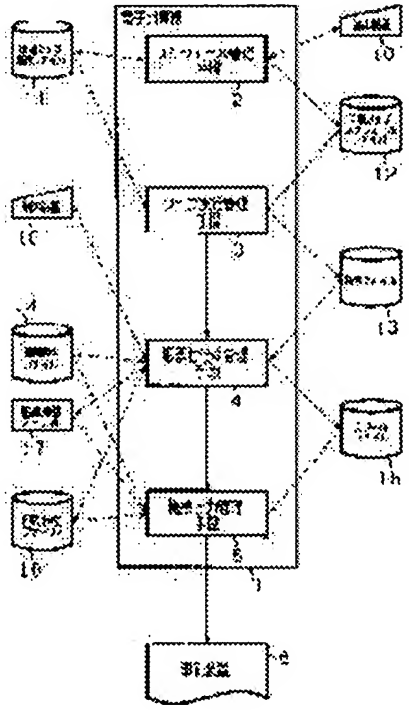
(54) AUTOMATIC DOCUMENT PREPARING-SORTING SYSTEM

(57)Abstract:

PURPOSE: To save the labor in the preparation and sorting of documents by executing a printing job for preparing a document file according to the data of a printing job schedule file, and then registering document printing data by the destinations of distribution in a spool file.

CONSTITUTION: At the time of preparing documents, printing jobs to be executed and the execution scheduled time are stored on every job execution date by a schedule control means 2 on the basis of the data of a job attribute file 11 to prepare a printing job schedule file 12. In a job execution control means 3, the execution scheduled time of the printing job to be executed next is acquired from the file 12, and upon reaching that time, the printing job is executed to prepare a document file 13. After the output of the printing job, a document sorting control means 4 acquires the document printing data of the prepared document file 13 and stores the document printing data by assigned destinations of distribution in a spool file 15. The document printing data is then outputted by the destinations of distribution to a printing device 6.



LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

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[Date of extinction of right]

* NOTICES *

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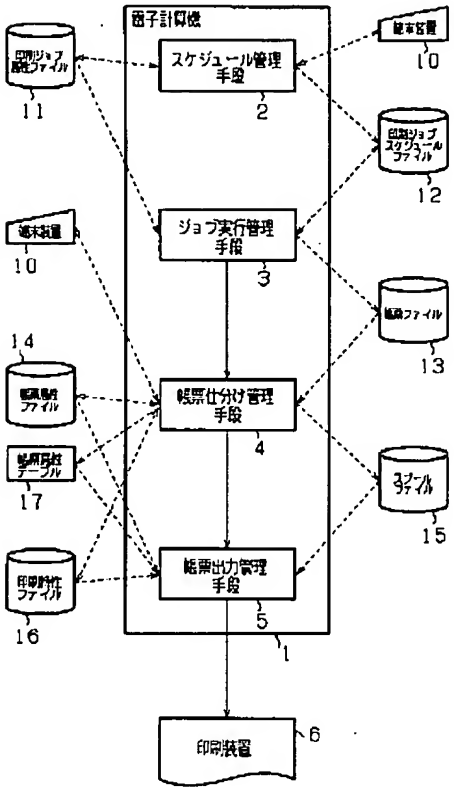
CLAIMS

[Claim(s)]
[Claim 1] The schedule management tool which stores in day by day [job activation] the print job which should be performed, and its activation schedule time of day, and generates a printing job schedule file, The activation schedule time of day of the print job performed next is acquired from the above-mentioned printing job schedule file. A job execution control means to output the notice of the purport by which the document file was created when this print job is performed, a document file is generated when it reaches at activation schedule time of day, and this print job is completed, The document classification management tool which acquired the document print data of the document file when the notice of the purport by which the document file was created from the above-mentioned job execution control means was outputted, and was specified and which is stored in a spool file for every distribution place, The document automatic generation classification system characterized by having the document output management tool which outputs these document print data to an airline printer for every distribution place after the document print data of all the specified distribution places are stored in the above-mentioned spool file.

[Translation done.]

Drawing selection Representative drawing



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DESCRIPTION OF DRAWINGS

[Brief Description of the Drawings]
[Drawing 1] The block diagram showing the outline of the document automatic generation classification system of this invention
[Drawing 2] Drawing showing an example of the contents of the print job attribute file
[Drawing 3] Drawing showing an example of the contents of the printing job schedule file
[Drawing 4] Drawing showing an example of the contents of the document attribute file
[Drawing 5] Drawing showing an example of the contents of the printing property file
[Drawing 6] The flow chart which shows the procedure of a job execution control means
[Drawing 7] The flow chart which shows the procedure after the document file monitor processing in a document classification management tool
[Drawing 8] The flow chart which shows the procedure of a document output management tool
[Drawing 9] The block diagram showing the outline of the conventional document automatic classification system
[Description of Notations]
1 -- A computer, 2 -- A schedule management tool, 3 -- Job execution control means, 4 [-- Document schedule means,] -- A document classification management tool, 5 -- A document output management tool, 6 -- An airline printer, 7 8 [-- Print job attribute file,] -- A document data registration means, 9 -- A document monitor means, 10 -- A terminal unit, 11 12 -- A printing job schedule file, 13 -- A document file, 14 -- Document attribute file, 15 -- A spool file, 16 -- A printing property file, 17 -- Document attribute table, 21 [-- A user output document file 25 / -- A document index file, 26 / -- A document data file, 27 / -- Parameter input equipment] -- A monitor file, 22 -- A document schedule attribute file, 23 -- A document monitor file, 24

[Translation done.]

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DETAILED DESCRIPTION

[Detailed Description of the Invention]
[0001]
[Industrial Application] This invention generates a document automatically using a computer, and relates to the document automatic generation classification system classified and outputted according to a distribution place.
[0002]
[Description of the Prior Art] Drawing 9 is the block diagram showing the outline of the conventional document automatic classification system. drawing 9 -- setting -- 1 -- a computer and 6 -- an airline printer and 7 -- a document schedule means and 8 -- a document data registration means and 9 -- a document monitor means and 21 -- for a document monitor file and 24, as for a document index file and 26, a user output document file and 25 are [a monitor file and 22 / a document schedule attribute file and 23 / a document data file and 27] parameter input equipment.
[0003] The activation day of each job for outputting document print data is stored in the monitor file 21, and the related record (what shows the relation between each job and the document name outputted) of each job and an output document is stored in the document schedule attribute file 22. The document schedule means 7 creates the schedule of a document based on the schedule of a job. That is, if there is a job which searches the job performed by day by day for a schedule on that day, and corresponds, the document name outputted by the job from the document schedule attribute file 22 will be read from the monitor file 21, and it is written in the document monitor file 23 one by one. Based on the relevance between each document, grouping of each document is carried out in that case. Moreover, it enables it to record the registration situation of document print data for every document.
[0004] The document specified that the document data registration means 8 inputs the index ID of the document registered into the document data file 26 from parameter input equipment 27 by that cause is searched from the user output document file 24, document print data are read, and it is stored in the document data file 26. If document print data are stored in the document data file 26, as an index to the document data file 26, a document name and its distribution place name will be written in the document index file 25, and the registration situation of document print data will be further recorded on the above-mentioned document monitor file 23.
[0005] It investigates whether the document monitor means 9 has the group whose output search the document monitor file 23 periodically, all documents are registered, and is attained. And if there is a group in whom an output is possible, the document print data of the document belonging to this group will be read from the document data file 26, and it will be made to output for every distribution place from an airline printer 6. For example, supposing there are four kinds of documents with which a distribution place belongs to A, B, C, those with three place, and a group, it will carry out as the document to the distribution place A is outputted four kinds, then the document to the distribution place B is outputted four kinds first and the document to the distribution place C is outputted to the last four kinds.
[0006] In the conventional document automatic classification system, it does in this way and is made to

classify a document automatically. In addition, as conventional reference relevant to such a document automatic classification system, there is JP,2-19914,A, for example.
[0007]
[Problem(s) to be Solved by the Invention] However, activation of the job for storing each document print data in a user output document file was not automated by the above mentioned Prior art, and registration processing to the document data file of document print data had to be performed to it by having specified the document for registration from parameter input equipment 27 one by one, and there was a trouble of taking time and effort in it. This invention makes it a technical problem to solve such a trouble.
[0008]
[Means for Solving the Problem] In order to solve said technical problem, in the document automatic generation classification system of this invention The schedule management tool which stores in day by day [job activation] the print job which should be performed, and its activation schedule time of day, and generates a printing job schedule file, The activation schedule time of day of the print job performed next is acquired from the above-mentioned printing job schedule file. A job execution control means to output the notice of the purport by which the document file was created when this print job is performed, a document file is generated when it reaches at activation schedule time of day, and this print job is completed, The document classification management tool which acquired the document print data of the document file when the notice of the purport by which the document file was created from the above-mentioned job execution control means was outputted, and was specified and which is stored in a spool file for every distribution place, After the document print data of all the specified distribution places were stored in the above-mentioned spool file, we decided to form the document output management tool which outputs these document print data to an airline printer for every distribution place.
[0009]
[work --] for The activation schedule of a print job can be created with a schedule management tool, and activation of a print job can be automated by performing a print job with a job execution control means according to the activation schedule. Moreover, since the purport by which the document file was created from the job execution control means to the document classification management tool is notified every and document print data are stored in a spool file for every distribution place with a document classification management tool in response to it whenever activation of one print job is completed, it is consistently automatable from activation of a print job to the classification output of a document.
[0010]
[Example] Hereafter, the example of this invention is explained to a detail based on a drawing. Drawing 1 is the block diagram showing the outline of the document automatic generation classification system of this invention. drawing 1 -- setting -- 1 -- a computer and 2 -- a schedule management tool and 3 -- a job execution control means and 4 -- a document classification management tool and 5 -- a document output management tool and 6 -- an airline printer and 10 -- a terminal unit and 11 -- for a document file and 14, as for a spool file and 16, a document attribute file and 15 are [a print job attribute file and 12 / a printing job schedule file and 13 / a printing property file and 17] document attribute tables.
[0011] Before explaining actuation of this system, each file set up or generated in the middle of processing is explained. Drawing 2 is drawing showing an example of the contents of the print job attribute file. This print job attribute file 11 is a file set up beforehand, and when creating a printing job schedule, it stores attributes, such as a leading job name, activation initiation schedule time, a document file name, a document attribute file name, and job control information, for every print job about all the target print jobs. In addition, among each above-mentioned item, if there is a print job (henceforth a leading job) with the need of terminating activation in advance of the job concerned when performing the job concerned, the name of the job is stored in the item of a "leading job name."
[0012] Drawing 3 is drawing showing an example of the contents of the printing job schedule file. This printing job schedule file 12 is created based on the data of the above-mentioned print job attribute file 11, and the print job performed is stored in day by day [job activation] in order of job activation schedule time of day. And the job activation scheduled day, job activation schedule time of day, a job

end date, job end time, a job termination code, a leading job name, etc. are stored for every job. In addition, a job end date, job end time, and a job termination code record the result, after a job is performed.

[0013] Drawing 4 is drawing showing an example of the contents of the document attribute file. This document attribute file 14 is a file set up beforehand, and stores a distribution place name, a printing property file name, a separation means (means, such as an output of the partition page given in order to make separation between each document easy, and an offset stack), etc. for every document about all the documents outputted by the print job for a schedule.

[0014] Drawing 5 is drawing showing an example of the contents of the printing property file. This printing property file 16 is a file set up beforehand, and stores printing properties, such as a class of a paper size, printing number of copies, one side / double-sided printing directions, longwise/oblong printing directions, and font, for every document about all the documents outputted by the print job for a schedule.

[0015] Although illustration is not carried out about the document file 13 and a spool file 15, the document file 13 is a file which carries out sequential storing of the document print data outputted as a result of performing each print job, and a spool file 15 is a file which stores document print data for every distribution place.

[0016] Next, actuation of each means is explained. The schedule management tool 2 performs the next processing.

(1) Setting processing of a print job attribute in which the data of the print job attribute file 11 are set up.

(2) Print job activation schedule processing which generates the printing job schedule file 12 based on the data of the print job attribute file 11.

(3) Print job activation schedule modification processing in which the contents of the printing job schedule file 12 are changed.

Those the processings of each are explained.

[0017] (Setting processing of a print job attribute) The job name list of the print jobs already registered into the print job attribute file 11 by conversation with a terminal unit 10 is first displayed on a terminal unit 10. In registering a print job newly, the command input field for inputting a print job attribute into a terminal unit 10 is displayed, and it inputs the job name of the print job registered newly, a leading job name, a job activation day, job activation initiation schedule time of day, a document file name, a document attribute file name, and job control information. Moreover, in changing the attribute of the already registered print job, choose the print job which corresponds from the print job name list displayed on the terminal unit 10, and take out the attribute of the print job concerned from the print job attribute file 11, it is made to display on the command input field, and modification reinputs a required attribute. Then, it stores in the print job attribute file 11.

[0018] (Print job activation schedule processing) First, the day for a schedule of a print job is inputted from a terminal unit 10, and the print job which should be performed on that day is extracted with reference to the job activation day field of the print job attribute file 11. Next, in the print job attribute file 11, with reference to the job activation start time field of each extracted print job, an activation schedule is assembled in order of job activation start time, and the printing job schedule file 12 is generated. When the leading job is then specified as the print job concerned, a schedule is assembled so that a leading job may be performed previously.

[0019] (Print job activation schedule modification processing) First, the day for schedule modification is inputted from a terminal unit 10, and the schedule information on the day is taken out from the printing job schedule file 12, and is displayed on the display screen of a terminal unit 10. And after correcting a part to be changed, it returns to the printing job schedule file 12 again.

[0020] Next, the job execution control means 3 is explained. The job execution control means 3 performs the next processing.

(1) Printing job schedule monitor processing in which schedule pipe ** is performed based on the data of the printing job schedule file 12.

(2) Leading job activation check processing in which the activation check is performed when the leading job is specified.
(3) Leading job reclosing processing in which a reclosing is performed when a leading job is not performed normally.
(4) Print job injection processing which supplies the print job concerned.
(5) Print job activation monitor processing which supervises whether the supplied print job was completed.
(6) Notice processing of print job activation termination which notifies that the print job was completed to the document classification management tool 4.
[0021] Those contents of processing are explained using a flow chart. Drawing 6 is a flow chart which shows the procedure of a job execution control means.
(Printing job schedule monitor processing) Step 1 -- A schedule on the day is read from the printing job schedule file 12.
Step 2 -- The data about the print job which should be performed next are taken out out of the read data.
Step 3 -- It distinguishes whether the job activation schedule time of day was seen, and current time of day has passed over job activation schedule time of day.
Step 4 -- When having not passed yet, it waits fixed time and returns to step 3.
[0022] (Leading job activation check processing) Step 5 -- When having passed over job activation schedule time of day at step 3, it distinguishes whether the leading job is specified as the print job concerned from the data taken out at step 2.
Step 6 -- When specified, it distinguishes whether activation of a leading job is completed by investigating the job termination code of the leading job in the printing job schedule file 12.
Step 7 -- If it has not ended, it waits fixed time and returns to step 6.
Step 8 -- When activation of a leading job is completed at step 6, it distinguishes whether activation of a leading job was completed normally.
[0023] (Leading job reclosing processing) Step 9 -- When a certain abnormalities are in activation of a leading job and it ends, the job control information on a leading job (job executive program) is taken out from the print job attribute file 11, and a reclosing is carried out to a system.
[0024] (Print job injection processing) Step 10 -- When the leading job is not specified at step 5 or a leading job is normally completed at step 8, the job control information on the print job concerned is taken out from the print job attribute file 11, and it supplies to a system.
[0025] (Print job activation monitor processing) Step 11 -- It distinguishes whether the supplied print job was completed.
Step 12 -- When having not ended, it waits fixed time and returns to step 11.
[0026] (Notice processing of print job activation termination) Step 13 -- If the supplied print job is completed, a job end date, job end time, and a job termination code will be recorded on the printing job schedule file 12. In addition, a job termination code is a code which shows [to which the job concerned was completed normally / or or] whether abnormal termination was carried out.
Step 14 -- It notifies that the print job was completed to the document classification management tool. At this time, the document file name and document attribute file name of the print job concerned are read and notified from the print job attribute file 11.
Step 15 -- If there is [whether activation of all the print jobs in a schedule file on the day was completed and] a print job which distinguishes and remains, it will return to step 2.
[0027] Next, the document classification management tool 4 is explained. The document classification management tool 4 performs the next processing.
(1) Document attribute setting processing in which carry out additional registration of the data new to the document attribute file 14 and the various definition files of printing property file 16 grade, or the already registered data are changed.
(2) Document file monitor processing in which the read-out preparations from the document file 13 are made in response to the notice of termination of a print job from the job execution control means 3.
(3) Document file input process which reads data from the document file 13.

(4) Document classification processing in which the distribution place of a document is decided.
(5) Spool file output processing which performs the output to a spool file 15.
[0028] Document attribute setting processing is first explained among them.
(Document attribute setting processing) The document attribute file 14 and the various definition files of printing property file 16 grade are specified from a terminal unit 10, and the data registered into the file are displayed on a terminal unit 10. And after carrying out additional registration of the new data on a display screen or changing the already registered data, those data are again stored in this definition file.
[0029] About the processing after document file monitor processing, those contents of processing are explained using a flow chart. Drawing 7 is a flow chart which shows the procedure after the document file monitor processing in a document classification management tool.
(Document file monitor processing) Step 1 -- It distinguishes whether there was any notice of termination of a print job from the above-mentioned job execution control means 3.
Step 2 -- When there is no notice, it waits fixed time and returns to step 1.
Step 3 -- From the job execution control means 3, when there is a notice of the notice of termination of a print job and the document file name of the print job concerned, and a document attribute file name, the file data of the notified document attribute file name is read, and it holds on the document attribute table 17.
Step 4 -- The document file 13 is opened and ejection of data record is made possible.
[0030] (Document file input process) Step 5 -- The print data of the document file name notified from the job execution control means 3 are read one by one per record.
(Document classification processing) Step 6 -- The following distribution place name is acquired from the document attribute table 17 held at step 3.
[0031] (Spool file output processing) Step 7 -- The printing data record read at step 5 is outputted to the spool file 15 classified according to the distribution place.
Step 8 -- It distinguishes whether the document was outputted to all the distribution places in the document attribute table 17.
Step 9 -- It distinguishes whether the data record which should read in the document file 13 was completed.
Step 10 -- If there is [whether activation of all the print jobs in a schedule file on the day was completed and] a print job which distinguishes and remains, it will return to step 1.
[0032] Next, the document output management tool 5 is explained. The document output management tool 5 performs the next processing.
(1) Spool file monitor processing which supervises the storing situation of the document print data to a spool file 15.
(2) Printing property output processing which directs the printing property of a document etc. to an airline printer 6.
(3) Print-data output processing which outputs document print data to an airline printer 6.
[0033] Those contents of processing are explained using a flow chart. Drawing 8 is a flow chart which shows the procedure of a document output management tool.
(Spool file monitor processing) Step 1 -- It distinguishes whether document print data were stored in the spool file 15 to all the distribution places of the document concerned in the document attribute table 17.
Step 2 -- If there is a distribution place which is not stored yet, it will wait fixed time and will return to step 1.
[0034] (Printing property output processing) Step 3 -- The printing property file name of the document concerned is acquired from the document attribute table 17.
Step 4 -- Data are read from a printing property file and a printing property is directed to an airline printer 6. Moreover, a separation means is acquired from the document attribute table 17, and it is directed to an airline printer 6.
[0035] (Print-data output processing) Step 5 -- The print data of the document concerned are read from a spool file 15 one by one per record.
Step 6 -- The read data record is outputted to an airline printer 6.

Step 7 -- It distinguishes whether all the printing data record of the document concerned finish reading.
Step 8 -- It distinguishes whether the output of a document was all completed in a document attribute table, and if it has not ended, it returns to step 1.
[0036] In addition, in the above-mentioned example, as document classification processing in the document classification management tool 4, although he is trying to acquire the following distribution place name from the document attribute table 17, other approaches are also employable. For example, include a classification code in document print data, and direct the location in the phase of document classification processing, this classification code is made to read, and a distribution place name can be acquired from the classification information table showing the correspondence relation between a classification code and a distribution place name. In that case, two or more distribution places are specified to one classification code, and the document covering two or more pages can also be outputted to the distribution place specified per page.
[0037] Moreover, other approaches are also employable, although printing property output processing is performed immediately and he is trying to start print-data output processing in the above-mentioned example, if document print data are stored in a spool file 15 in the document output management tool 5 to all the distribution places of the document concerned in the document attribute table 17. For example, the output gestalt (an instant output, a time assignment output, output hold) of a document is set as the document attribute file 14, document output schedule processing can be added to the document output management tool 5, and output schedule pipe ** of a document can also be made possible in each document unit. And although only one document output management tool 5 is formed, each airline printer installed for every distribution place can be made to possess the document output management tool 5 in the above-mentioned example again, respectively.
[0038]
[Effect of the Invention] If according to the document automatic generation classification system of this invention the print job for generating a document file is automatically performed according to the data of a printing job schedule file and each print job is completed as stated above, the document print data will be automatically registered for every distribution place to a spool file. Therefore, generation and the classification output of a document can be performed automatically, without applying time and effort, such as a parameter input, after that, if a document automatic generation classification system is once started.

[Translation done.]

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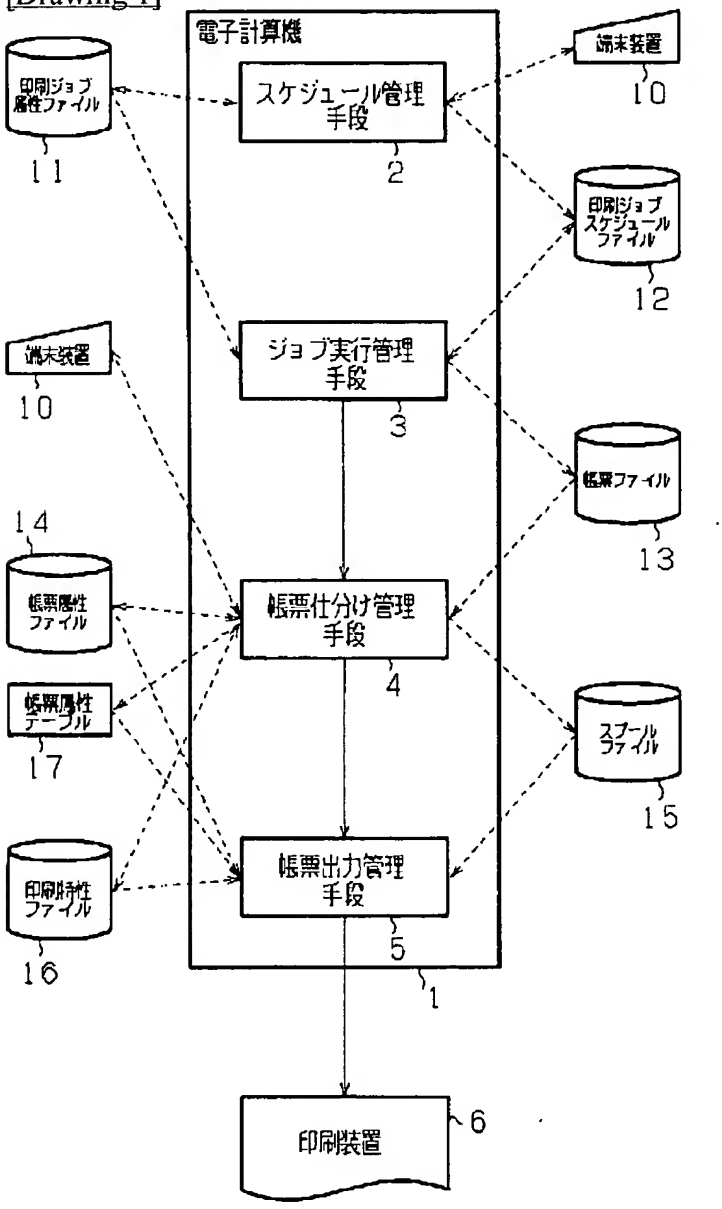
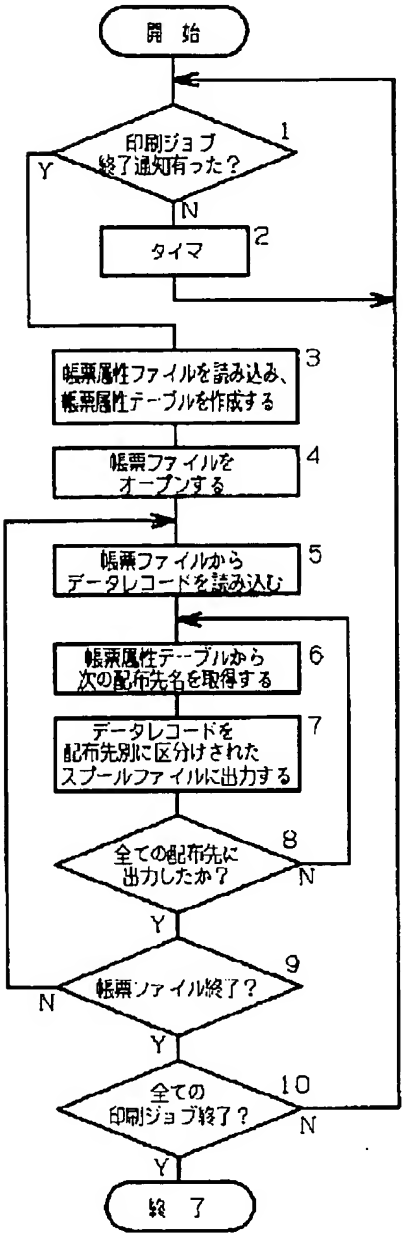
DRAWINGS

[Drawing 1]



[Drawing 7]



[Drawing 2]

ジョブ名称	先行ジョブ名称	ジョブ実行日	ジョブ実行開始時刻	帳票ファイル名	帳票属性ファイル名	ジョブ制御情報
ジョブA	ジョブX	09/02	10：30	帳票A	帳票属性A	プログラムA
ジョブB	—	毎週月曜日	20：00	帳票B	帳票属性B	プログラムB
⋮	⋮	⋮	⋮	⋮	⋮	⋮

11

[Drawing 3]

ジョブ名称	ジョブ1	ジョブ2	ジョブ3	---	ジョブn
ジョブ実行予定日	09/10	09/10	09/10	---	09/10
ジョブ実行予定時刻	08:00	08:45	09:30	---	17:00
ジョブ終了日				---	
ジョブ終了時刻				---	
ジョブ終了コード				---	
先行ジョブ名称	—	ジョブM	ジョブN	---	—

12

[Drawing 4]

帳票名称	配布先名	印刷特性ファイル名	分離手段
帳票A	A，B，C	印刷特性A	仕切りページ
帳票B	G，H	印刷特性B	オフセットスタック
⋮	⋮	⋮	⋮

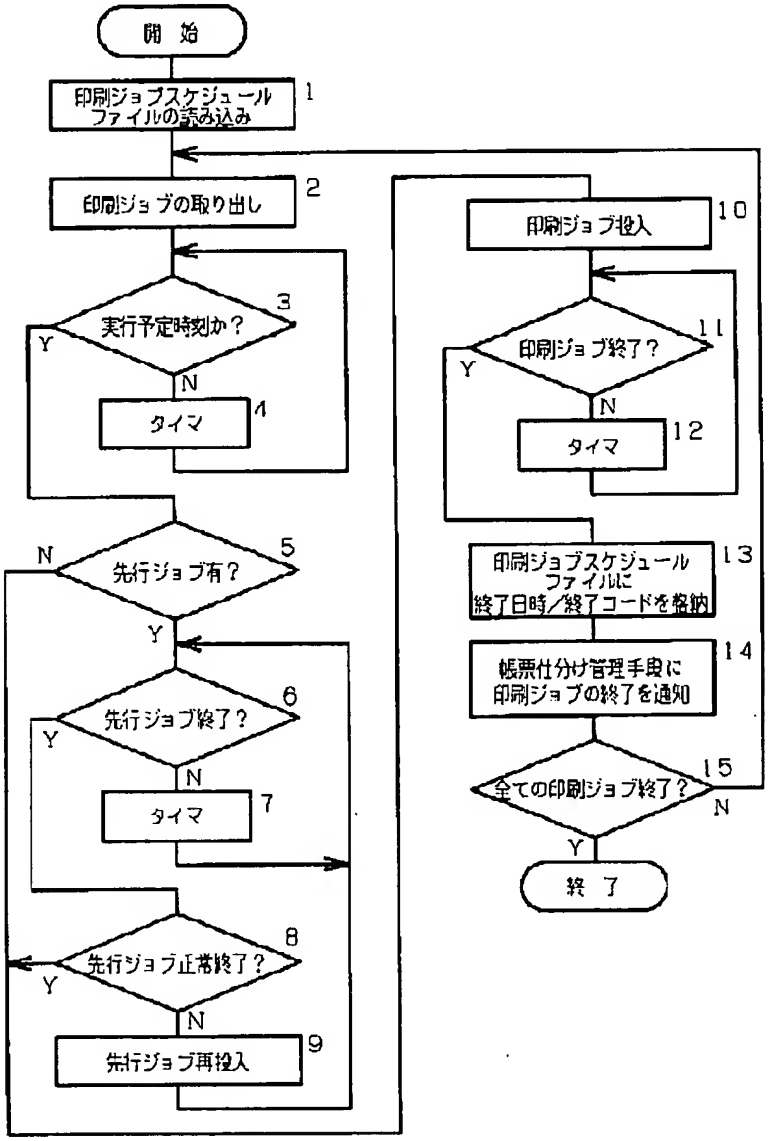
14

[Drawing 5]

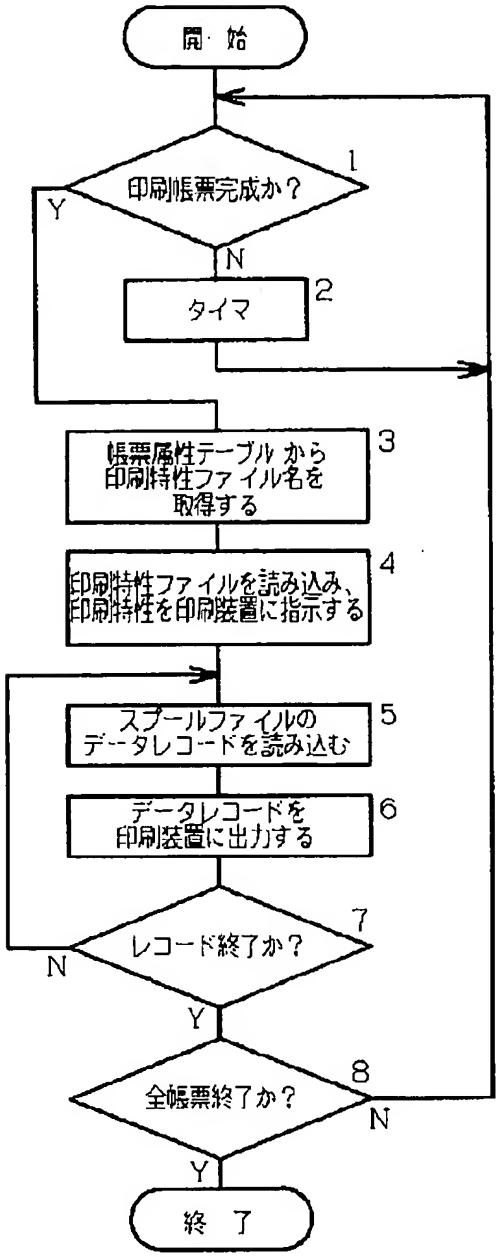
用紙サイズ	印刷部数	片面／両面印刷	縦長／横長印刷	フォント
A4	1	片面	縦長	フォントA
B5	10	片面	横長	フォントB
⋮	⋮	⋮	⋮	⋮

16

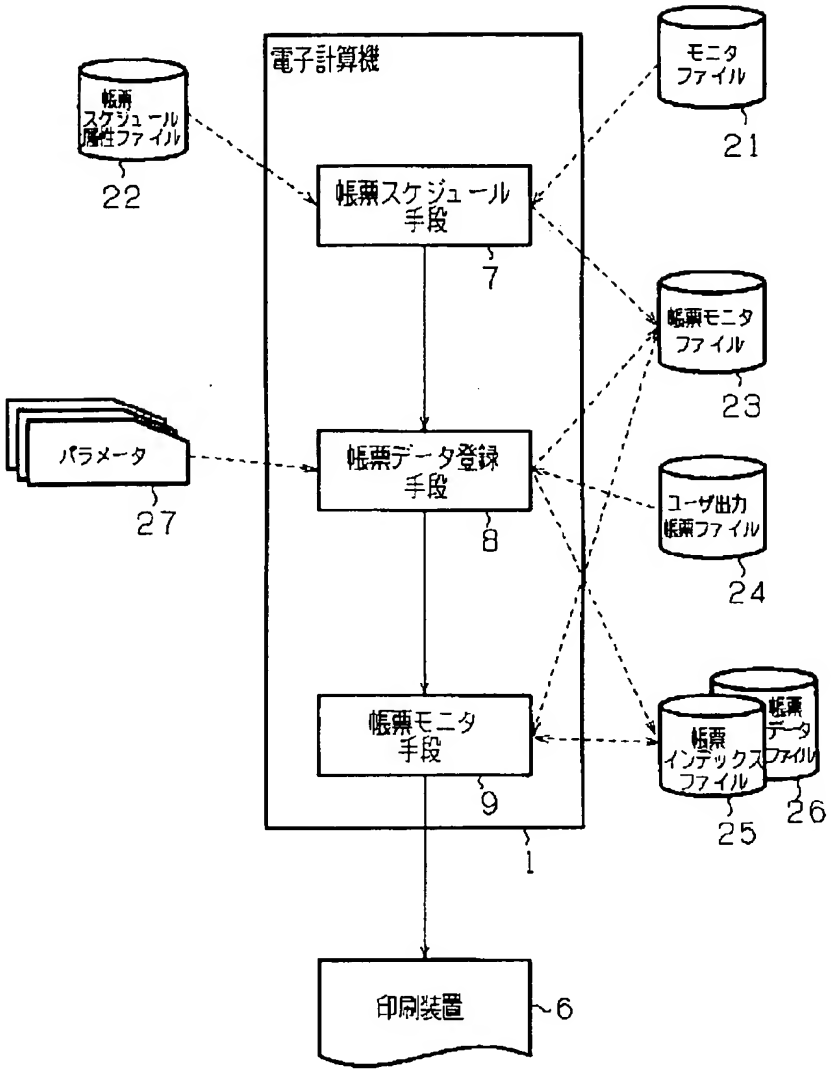
[Drawing 6]


開 始
印刷ジョブスケジュール ファイルの読み込み
1
印刷ジョブの取り出し
2
実行予定時刻か？
3
Y
N
タイマ
4
N
先行ジョブ有？
5
Y
先行ジョブ終了？
6
Y
N
タイマ
7
先行ジョブ正常終了？
8
Y
N
先行ジョブ再投入
9
印刷ジョブ投入
10
印刷ジョブ終了？
11
Y
N
タイマ
12
印刷ジョブスケジュール ファイルに 終了日時／終了コードを格納
13
帳票仕分け管理手段に 印刷ジョブの終了を通知
14
全ての印刷ジョブ終了？
15
N
Y
終 了

[Drawing 8]


開 始
1
印刷帳票完成か？
Y
N
2
タイマ
3
帳票属性テーブルから
印刷特性ファイル名を
取得する
4
印刷特性ファイルを読み込み、
印刷特性を印刷装置に指示する
5
スプールファイルの
データレコードを読み込む
6
データレコードを
印刷装置に出力する
7
レコード終了か？
N
Y
8
全帳票終了か？
N
Y
終 了

[Drawing 9]



[Translation done.]